STATE OF CALIFORNIA

Energy Resources Conservation
And Development Commission

In the Matter of:	)	Docket No. 02-AFC-04
	)	
Application for Certification	)	**Staff's Comments**
of Turlock Irrigation District's	)	**on the PMPD**
Walnut Energy Center	)	
_____	)	February 4, 2004

On January 14, 2004, the Walnut Energy Center Committee (Committee) issued a Presiding Member's Proposed Decision (PMPD) for Turlock Irrigation District's (applicant's) proposed Walnut Energy Center, a 250 MW natural gas fired, combined-cycle facility to be located in the City of Turlock. Staff commends the Committee for drafting a thorough and thoughtful PMPD. The PMPD addresses the legal and factual issues raised in testimony received into evidence at two hearings that took place in September and October, 2003. In the Notice of Availability filed concurrently with the PMPD, the Committee called for parties to file written comments on the PMPD on February 4, 2004. This document contains staff's comments on the PMPD.

Staff's comments fall into two categories. The first consists of our position on several issues where we believe the Committee has misunderstood either the evidence or applicable legal requirements and, as a result, has reached conclusions that staff recommends be amended. These comments are presented below. The second category of comments consists of minor grammatical or typographical corrections. These are presented in Appendix A in underline/strikeout format.

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I. THE COMMITTEE SHOULD REQUIRE THAT THE INCREASE IN SECONDARY PARTICULATE LEVELS THAT WILL OCCUR AS A RESULT OF THE 10 PPM AMMONIA SLIP LEVEL IN THE FDOC BE FEASIBLY AND EFFECTIVELY MINIMIZED BY A 5 PPM AMMONIA SLIP LIMIT.

The PMPD contains a thorough discussion of the issue of ammonia slip and finds that the 10 ppm ammonia slip level requested by the applicant is appropriate.[1] However, the PMPD contains several erroneous statements; when these are corrected, the staff position that a 5 ppm level should be required is the more reasonable one. As a result, staff recommends that the PMPD be modified to include a 5 ppm ammonia slip requirement.

The PMPD cites several factors as supporting its conclusion. First, the PMPD states that the 10 ppm level contained in the Final Determination of Compliance (FDOC) is a "BACT" level – that is, a formal determination that the level represents Best Available Control Technology, which is required by federal and state law for certain emission sources in certain areas.[2] (PMPD, p. 99) However, the PMPD is incorrect. The FDOC does not address ammonia in the BACT discussion. (*See*, Exh. 41, Appendix F) In fact, the only discussion of this issue provided by the San Joaquin Valley Air Pollution Control District (SJVAPCD or District) was a statement at the evidentiary hearing that controlling NO_x is "more important" than the secondary particulate that may be formed from ammonia slip. However, as staff pointed out in testimony and briefs, neither the SJVAPCD nor the

[1] Ammonia slip refers to the release into the atmosphere of unreacted ammonia as a result of the selective catalytic reduction (SCR) process used to control NO_x emissions from the project. The Final Determination of Compliance (FDOC), prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD), identifies an ammonia slip level for the project of 10 ppm. Staff recommends that ammonia slip be limited to 5 ppm, because ammonia slip has the potential to contribute to secondary particulate formation.

[2] According to SJVAPCD rules, BACT is the most stringent of the following emission limitations: 1) one that is achieved in practice; one that is contained in an approved State Implementation Plan, one that is identified in the New Source Performance Standards; or one that is found by the District to be cost-effective and feasible. (SJVAPCD Rule 2201) Only the South Coast Air Quality Management District has established a BACT level for ammonia slip – that level is 5 ppm.

Commission must pick between controlling NO_x and controlling ammonia slip, a point with which both the applicant and SJVAPCD witnesses agreed. In sum, there is no disagreement that NO_x emissions can be maintained at 2 ppm regardless of whether ammonia slip is 5 ppm or 10 ppm. The information in the record supports a finding that a 5ppm ammonia slip level is feasible, and that the higher ammonia slip level in the FDOC is not based on any SJVAPCD analysis of BACT.

The second reason cited in the PMPD in support of the higher ammonia slip level is the Committee's belief that a study performed by the California Air Resources Board (CARB) "failed to indicate that a reduction in ammonia levels would reduce particulate levels. . ." (PMPD, p. 100) The study which the Committee references is a modeling analysis included by the SJVAPCD in its PM_{10} attainment plan, which has not yet been approved by the United States Environmental Protection Agency. As staff pointed out in its brief on this issue, the analysis does not support a conclusion that a reduction in ammonia levels will have no effect on particulate levels. In the section of the Executive Summary that discusses this analysis, the SJVAPCD identifies several problems with the dataset used in the analysis. The results indicate that 50 percent reductions in ammonia had mixed and uncertain results. In addition, the ambient data used in the study were contradicted by the modeling results. Given the flaws in the study, it should not be used to justify a conclusion by the Commission that increased ammonia emissions will have no effect on secondary particulate formation.

Moreover, we note that the PM_{10} attainment plan contains the following statements:

> ". . . the District is committed to pursuing an expeditious ammonia control strategy. In light of the uncertainty regarding ammonia emission controls to achieve attainment, the PM10 Plan includes a strategy to further assess and develop any needed control for ammonia sources, especially dairies.

> Implementation of any controls would depend on further analysis of the Valley's ammonia chemistry. . ." (SJVAPCD PM_{10} Attainment Plan, ES-16)

Staff understands that developing a comprehensive program to control ammonia sources in the District will be time-consuming and complicated, due to the variety of ammonia sources and varying geographical and meteorological conditions within the District. Nonetheless, it appears that it is not a question of whether ammonia controls will be implemented within the District; it is only a question of when. Given the direction provided by the Plan, staff believes it appropriate for the Commission to require feasible ammonia controls now for a project which may operate in excess of 30 years, rather than allow higher levels merely because the District has not yet adopted a District-wide ammonia control plan.

In short, the evidence in this case is that ammonia emissions contribute to secondary particulate formation, that the contribution will likely require controls on ammonia sources in the future, but that the District has not addressed this project's contribution to particulate levels from the ammonia slip level referenced in the FDOC. Because area residents are already exposed to unhealthy levels of particulates, the Committee should require a 5 ppm ammonia slip limit and minimize the project's contribution to this significant problem.

II. PROPER APPLICATION OF CEQA PRINCIPLES SUPPORTS A FINDING THAT THE PROJECT WILL HAVE SIGNIFICANT LAND USE IMPACTS DUE TO THE PERMANENT CONVERSION OF PRIME AGRICULTURAL LAND.

In the area of Land Use, the PMPD concludes that the permanent conversion of 18 acres of prime agricultural land caused by the project does not constitute a significant adverse impact. The Committee bases its conclusion on the following points: 1) the site is consistent with applicable laws; 2) the City has planned this area to be dedicated to industrial use, which will therefore occur

with or without this project; and 3) the City has not required mitigation for other industrial uses in this area. We address each of these points individually.

With respect to the fact that the land is zoned for industrial use, staff does not believe that this is dispositive. A conversion of agricultural land to non-agricultural uses, that would otherwise be a significant adverse impact, does not become a less than significant impact merely because of a zoning designation. CEQA requires that the impacts of the project be measured against the "real conditions on the ground." (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 121, 104 Cal.Rptr.2d 326, 342)[3] There is a series of cases rejecting environmental impact reports that compare a project under review to what is allowed under current zoning rather than to the existing physical environment. (*See, e.g.*, *Environmental Planning and Information Council v. County of El Dorado* (1983) 131 Cal.App.3d 350, 182 Cal.Rptr. 317, *Christward Ministry v. Superior Court* (1986) 184 Cal.App.3d 180, 228 Cal.Rptr. 868, *City of Carmel-by-the-Sea v. Board of Supervisors* (1986) 183 Cal.App.3d 229, 227 Cal.Rptr. 899) This case is not distinguishable, and zoning consistency is not a valid basis for finding that the agricultural land conversion caused by TID's project is not a significant impact.

This point is underscored by the fact that the CEQA Guidelines direct Lead Agencies to ask a series of questions about effects on agricultural resources, not only whether the project creates a conflict with an agricultural zoning designation. (CEQA Guidelines, Appendix G, Section II) If agricultural land conversion does not cause a significant adverse impact wherever there is zoning consistency, the other questions identified in the Guidelines would not need to be addressed. In this case, the project is consistent with zoning, *and*

[3] See also Title 14, California Code of Regulations, § 15064(d), which requires a Lead Agency to evaluate "the direct *physical* changes in the environment" (emphasis added).

creates a significant adverse impact due to the conversion of 18 acres of prime agricultural land.

The Committee's second point is that the City has planned this area to be dedicated to industrial use, and that industrial use will occur with or without this project. In the first place, this rationale is quite similar to the zoning argument made in the PMPD. We believe our previous discussion of this issue demonstrates that CEQA does not identify zoning consistency as a basis for exempting projects from CEQA's requirement that significant adverse impacts be identified, and to the extent feasible, mitigated. In addition, the fact that an impact will occur as a result of a project that is consistent with planned uses does not mean that the impact is less than significant. If that were true, arguably none of the impacts associated with any planned development could ever be considered significant or would ever be mitigated. Obviously, because this project will cause the permanent conversion of agricultural land, this project developer should be responsible for providing feasible mitigation for the impact.

The third point is that the City has not required mitigation for other industrial uses in this area. Staff does not believe that the significance of an impact should turn on whether a local agency would require mitigation in a similar situation. If that were the case, the disposition of power plant cases reviewed by the Commission would depend on the policies of the local governments, not on the testimony of staff, applicant, interveners and responsible agencies. Under CEQA, all agencies are required to exercise their independent judgment in reaching conclusions and making findings about the contents of the environmental documents they prepare. (Pub. Resources Code § 21082.1) The law is clear that the Commission's decision should be based on an independent review of all of the information in the record, not on speculation about what a local government might do if it were permitting the project.

Moreover, we believe that the Committee should not support its decision by referencing a local government policy while at the same time ignoring the comments of the Department of Conservation (Department). The Department's recommendation is based on a review of the *specific* facts of this project and a conclusion that this 18-acre conversion should be identified as a significant impact. Staff believes that greater weight should be given to the recommendation of the agency responsible for promoting proper management of the state's agricultural land than to local land use policies.[4]

The evidence in the record shows that the conversion of 18 acres of prime agricultural land constitutes a significant adverse impact that requires mitigation. The fact that the area is zoned for industrial uses, and that other industrial uses could occur if this project were not built, does not mean that the impacts do not need to be mitigated. Staff urges the Committee to require the feasible mitigation identified by staff in **LAND-6** of the FSA.

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[4] The PMPD attempts to discount the significance of the letter by stating that the author may no longer work at the Department. The fact that Mr. Vink may or may not work for the Department at this time does not in any way undermine the validity of the position he articulated on behalf of the Department in the letter. If that were the case, the Commission would be at risk for resting its decisions on testimony of Commission staff or applicant witnesses who may subsequently change their employment. Staff recommends that the Committee modify this section of the PMPD to give appropriate deference to the position of the Department.

III. CONCLUSION

In the vast majority of technical areas addressed in the PMPD, staff fully supports the conclusions and findings of the Committee. However, in the areas of Air Quality and Land Use, staff believes that the PMPD will be more defensible if revisions are made to better reflect applicable law and the evidence in the record.

Specifically, staff encourages the Committee to require an ammonia slip level of 5 ppm in order to protect residents in the San Joaquin Valley -- who already experience numerous violations of the PM_{10} standard -- from further exceedences. In addition, we recommend that the Committee defer to the expertise of the Department of Conservation and find that the permanent loss of 18 acres of prime agricultural land is a significant adverse impact requiring mitigation.

Date: February 4, 2004

Respectfully submitted,

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APPENDIX A

Introduction
Page 1, footnote 1: A list of all exhibits is contained in Appendix ~~C~~B of this Decision.

Power Plant Efficiency
Page 69, third full paragraph, second sentence: Although the project is expected to generate electricity at a full load thermal efficiency of about 50 percent, lower heating value (LHV) (as compared to average efficiency of utility baseload plants of 35 percent LHV), it constitutes a substantial rate of energy consumption that could impact energy supplies or resources.

Transmission Line Safety and Nuisance
Page 89, first partial paragraph, last sentence: These types of exposures are short-term and not significantly related to the present health concern.

Air Quality
Page 93, second full paragraph: There are two major components of federal air pollution law: New Source Review (NSR) for evaluating pollutants that violate federal standards, and Prevention of Significant Deterioration (PSD) for evaluating those pollutants that do not violate federal standards. Enforcement of NSR ~~and PSD~~ rules is ~~typically~~ delegated to ~~local air districts. In this case,~~ the San Joaquin Valley ~~Unified~~ Air Pollution Control District (Air District or SJV~~U~~APCD) ~~is the local authority~~. A PSD permit, which would be issued by the United Stated Environmental Protection Agency, is not required for this project.

Page 95, Air Quality Table 2: **Staff does not recommend a change to the PMPD on this issue but notes that On December 18 or 2003, the Governing Board of the SJVAPCD voted to request that ht U.S. EPA downgrade the district's attainment status from severe nonattainment to extreme nonattainment. (*See*, http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Minutes/GB_Minutes_2003_Dec_18.pdf)**

Page 98, Air Quality Table 4, footnote f: Background values have been adjusted per staff recommended background concentrations shown in ~~AIR QUALITY Table 9~~ Exhibit 11, p. 4.1-21.

Page 101, footnote 12: ~~The Air Distrcit has a verbal preliminary approval of its attainment plan from the USEPA. (9/29/03 RT 40: 1-9)~~ **Staff recommends deleting this sentence because we believe that the referenced discussion addresses the Air District's attainment plan for PM_{10}., whereas this discussion concerns the Air District's attainment plan for ozone.**

*Page 125, Verification for **AQ-78***: **Staff would prefer the following substitution**: ~~The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).~~ The project owner shall provide any request to allow the use of EPA approved alternative source test methods to the CPM for review and APCO for approval prior to submitting the source test plan. In addition, the project owner shall provide to the CPM evidence of the District's approval of the alternative source test methods prior to submitting the source test plan.
Page 128, Verification for AQ-95: The project owner shall submit the results of the initial and annual source tests per Condition **AQ-~~41~~42**.

Public Health
Page 134, second full paragraph, first two sentences: Construction impacts will arise chiefly from exposure to windblown dust from excavation and grading, and ~~to~~ emissions from construction equipment. The evidence shows that the highest potential cancer health risk at the nearest residential receptor is 2.8 in one million; this is significantly below the cancer significance criterion on 10 in one million.

Waste Management,
Page 149, second full paragraph, second sentence: The former include about 6 tons of wood, paper, glass, and plastics, 40 tons of excess concrete, 15 tons of scrap metal, and 300 tons of drilling mud.

Page 150, first full paragraph, first sentence: Approximately 50 cubic yards of items such as rags, turbine air filters, machine parts, electrical materials, and empty containers are typical nonhazardous wastes created during each year of project operation.

Hazardous Materials Management
Page 141, first full paragraph: Development of a Safety Management Plan for the delivery of anhydrous ammonia (see Condition of Certification **HAZ-4**) ~~and~~ will further reduce the risk of any accidental release not otherwise addressed.

Page 142, first full paragraph: The evidence is in accord that compliance with applicable codes which incorporate measures such as the use of double block and bleed valves for ~~fast~~ secure shut off, automated combustion controls, burner management, inspection of welds, and use of corrosion resistant coatings will suffice to adequately minimize the potential for off-site impacts.

Geology and Paleontology

Second full paragraph, second sentence: Exploration adjacent to the plant site generally encountered silty sand, poorly gra~~n~~ded sand, and minor silt and clayey sand.

Soil and Water Resources
Page 200, last partial sentence: Groundwater resources in the Turlock Groundwater Basin are overdrafted, ~~and have~~ which has necessitated the development of conservation programs and management plans to protect high quality drinking water sources.

Visual Resources
Page 227, second full paragraph: At each KOP, the Staff conducted a visual analysis that considered visual quality, ~~visual sensitivity~~ viewer concern, ~~visibility,~~ viewer exposure (which includes visibility, number of viewers, and duration of view), and visual ~~susceptibility~~ sensitivity. (Ex. 11, pp. 4.12-9 through 4.12-15.) To assess the visual changes that the project would cause, Staff considered the following factors: dominance, contrast, ~~view,~~ and view blockage. (Ex. 11, pp. 4.12-17 through 4.12-22.)

Page 228, second full paragraph, last sentence: Condition of Certification VIS-6 ensures that the cooling tower will be designed and operated to ~~minimize~~ keep plume impacts to a less than significant level. (Ex. 11, pp. 4.11-25 to 4.11-26.)

Page 229, Findings and Conclusions 2, 5, 7:

2. The project area possesses no notable visual features, or scenic vistas, ~~or~~ and is of low to moderate visual quality.

5. The primary project components that could affect visual resources include the heat recovery ~~system~~ steam generators (HRSG), HRSG exhaust and brine concentrator stacks, the steam turbine generator, and the cooling tower.

7. ~~The~~ Condition~~s~~ of Certification VIS-6 ensures that the occurrence of visible cooling tower plumes will be ~~minimized to the extent practicable~~ kept to a less than significant level.

*Page 232, **VIS-3**, item 4, last sentence*: The project owner shall provide a copy of each complaint ~~from~~ form to the CPM.

*Page 233, **VIS-4**, item 5, last sentence*: The project owner shall provide a copy of each complaint ~~from~~ form to the CPM.

WALNUT ENERGY CENTER (02-AFC-4)

COMMISSION STAFF SUPPLEMENTAL TESTIMONY ON COOLING TOWER PLUMES

(Witness: Eric Knight)

FEBRUARY 4, 2004

TID is requesting to change the operating parameters of the WEC cooling tower from the design proposed in the AFC and analyzed by staff in the FSA. Staff remodeled the plumes using the new cooling tower design parameters. The results of staff's modeling are presented below as a comparison of the old and new designs.[1]

Table 2 – Staff Predicted Hours with Cooling Tower Steam Plumes Fresno 1990-1994 Meteorological Data

Full Load Operation	Available (hr)	Plume (hr)	Percent
Old Design			
All Hours	43,824	19,738	45.0%
Daylight Hours	22,190	6,329	28.5%
Nighttime Hours	21,634	13,409	62.0%
Daytime No Rain No Fog Hours	18,349	3,419	18.6%
Seasonal Daylight Hours	10,031	5,413	54.0%
Seasonal Daylight No Rain No Fog Hours	6,560	2,662	40.6%
New Design			
All Hours	43,824	22,181	50.6%
Daylight Hours	22,190	7,508	33.8%
Nighttime Hours	21,634	14,673	67.8%
Daytime No Rain No Fog Hours	18,349	4,367	23.8%
Seasonal Daylight Hours	10,031	6,237	62.2%
Seasonal Daylight No Rain No Fog Hours	6,560	3,281	50.0%

*Seasonal conditions occur anytime from November through April.

Table 4 – Staff Predicted Cooling Tower Plume Hours Cloud Cover

Plume Hours by Cloud Cover Type					
All Seasonal Day No Rain/Fog		Clear		Scattered/Broken/Overcast	
Hours	%	Hrs	%	Hours	%
Old Design					
2,662	40.6	1,179	17.9	1,483	22.6
New Design					
3,281	50.0	1,480	22.6	1,801	27.4

* - Percentiles are calculated by dividing the number of plume hours by the reference number of seasonal daylight no rain no fog hours (6,560).

Table 5 – Staff Predicted "Clear" SDNRNF Cooling Tower Plume Dimensions

	Cooling Tower "Clear" Plume Dimensions		
Percentile	Length	Height	Width
Old Design			
1%	544 (1,784)	600 (1,967)	120 (393)
5%	135 (443)	163 (535)	65 (214)
10%	50 (164)	76 (251)	51 (167)
15%	13 (43)	37 (121)	39 (128)
New Design			
1%	529 (1,735)	559 (1,834)	101 (331)
5%	146 (479)	170 (558)	50 (164)
10%	65 (213)	84 (276)	38 (125)
15%	29 (95)	48 (157)	30 (98)

SDNRNF – Seasonal Daylight No Rain No Fog
Data provided in meters and (feet)

[1] The table numbers are those from the FSA (page 4.11-24).

The new design will create more frequent and larger visible plumes. Plume frequency will increase from 17.9 percent to 22.6 percent of the clear SDNRNF (seasonal daylight no rain/no fog) hours[2]. The 10th percentile plumes, which were predicted to be 164 feet long, 251 feet high, and 167 feet wide, are now predicted to be 213 feet long (+49 feet), 276 feet high (+25 feet), and 125 feet wide (-42 feet). When considered within the viewing characteristics of the existing setting of the project (for instance, the moderately low number of nearby sensitive visual receptors and moderately low visual quality and the presence of existing plumes), the larger predicted WEC cooling tower plumes do not change staff's conclusion that the plumes will have a less than significant visual impact.

TID has also proposed changes to the verification language of **VIS-6**. Staff finds the proposed changes to the cooling tower design and the timing of compliance verification to be acceptable. The changes to **VIS-6** (page 235 of the PMPD) are shown in underline/strikeout below.

VIS-6 The project owner shall ensure that the Walnut Energy Center cooling tower is designed and operated so that the plume frequency will not increase from the design as certified.

The cooling tower shall be designed so that the exhaust air flow rate per heat rejection rate ~~(1)~~ will not be less than ~~15.0~~ 16.7 kilograms per second per megawatt when the ambient temperatures are between 32 and ~~46~~ 80 degrees F~~; and (2) will not be less than 19.0 kilograms per second per megawatt when the ambient temperatures are greater than 46 degrees F and less than 80 degrees F~~.

Verification: At least 30 days prior to ~~ordering~~ construction of foundations for the cooling tower~~s~~, the project owner shall provide to the CPM for review the final design specifications of the cooling tower related to plume formation. The project owner shall not ~~order~~ begin construction of the cooling tower foundation until notified by the CPM that the ~~two~~ design requirement~~s~~ above ~~have~~ has been satisfied.

The project owner shall provide a written certification in each Annual Compliance Report to demonstrate that the cooling tower~~s~~ ~~have~~ has consistently been operated within the above-specified design parameters, except as necessary to prevent damage to the cooling tower. If determined to be necessary to ensure operational compliance, based on legitimate complaints received or other physical evidence of potential non-compliant operation, the project owner shall monitor the cooling tower operating parameters in a manner and for a period as specified by the CPM. For each period that the cooling tower operation

[2] Refer to the FSA (pages 4.11-22 through 4.11-24) for a complete discussion of staff's plume analysis methodology.

monitoring is required, the project owner shall provide to the CPM the cooling tower operating data within 30 days of the end of the monitoring period. The project owner shall include with this operating data an analysis of compliance and shall provide proposed remedial actions if compliance cannot be demonstrated.